

CLAIMS

What is claimed is:

5 1. A method for detecting safe driving behavior in a vehicle, said method comprising:

 defining a plurality of unsafe driving events, wherein an unsafe driving event characterizes movement of a vehicle in a manner indicative of unsafe driving behavior;

10 acquiring vehicle data for a plurality of parameters associated with movement of said vehicle;

 processing said vehicle data in order to determine whether movement of said vehicle meets one or more pre-determined conditions; and

15 generating event data for one or more unsafe driving events if said processed vehicle data meets said pre-determined conditions.

 2. The method as set forth in claim 1, wherein generating one or more unsafe driving events comprises transmitting, to a receiver remote from said vehicle, data for an unsafe driving event after said unsafe driving event is detected.

20 3. The method as set forth in claim 1, wherein generating one or more unsafe driving events comprises transmitting, to a receiver remote from said vehicle, data for an unsafe driving event only during specified time periods.

4. The method as set forth in claim 1, further comprising:
transmitting said data for an unsafe driving event to an application server; and
generating one or more reports to characterize unsafe driving behavior for said
5 vehicle.

5. The method as set forth in claim 1, wherein acquiring vehicle data for a
plurality of parameters associated with movement of said vehicle comprises sensing
movement of said vehicle.

10 6. The method as set forth in claim 5, wherein sensing movement of said vehicle
comprises sensing angular rate for yaw axis of said vehicle with a gyroscope.

7. The method as set forth in claim 5, wherein sensing movement of said vehicle
15 comprises sensing acceleration in lateral and longitudinal axes of said vehicle with
accelerometers.

8. The method as set forth in claim 1, wherein acquiring vehicle data for a
plurality of parameters associated with movement of said vehicle comprises acquiring data
20 from a global positioning system ("GPS") receiver.

9. The method as set forth in claim 1, wherein an unsafe driving event comprises
tailgating.

10. The method as set forth in claim 1, wherein an unsafe driving event frequent lane changes.

5 11. The method as set forth in claim 1, wherein an unsafe driving event comprises a speed limit violation.

12. The method as set forth in claim 1, wherein an unsafe driving event comprises a speed limit violation over a curved segment of road.

10 13. The method as set forth in claim 1, wherein an unsafe driving event comprises a rapid acceleration from a start.

14. The method as set forth in claim 1, wherein an unsafe driving event comprises
15 a rapid deceleration to a stop.

15. A system for detecting safe driving behavior in a vehicle, said system comprising:

a plurality of unsafe driving events, wherein an unsafe driving event characterizes
20 movement of a vehicle in a manner indicative of unsafe driving behavior;
circuit for acquiring vehicle data for a plurality of parameters associated with
movement of said vehicle; and

processor, coupled to said circuit, for processing said vehicle data in order to determine whether movement of said vehicle meets one or more pre-determined conditions and for generating event data for one or more unsafe driving events if said processed vehicle data meets said pre-determined conditions.

16. The system as set forth in claim 15, further comprising a transmitter for transmitting, to a receiver remote from said vehicle, data for an unsafe driving event after said unsafe driving event is detected.

17. The system as set forth in claim 15, further comprising a transmitter for transmitting, to a receiver remote from said vehicle, data for an unsafe driving event only during specified time periods.

18. The system as set forth in claim 15, further comprising:

an application server;

a transmitter for transmitting said data for an unsafe driving event to said application server; and

wherein, said application server for generating one or more reports to characterize unsafe driving behavior for said vehicle.

19. The system as set forth in claim 15, wherein said circuit for acquiring vehicle data comprises one or more movement sensors.

20. The system as set forth in claim 19, wherein said sensor comprises a gyroscope for sensing angular rate for yaw axis of said vehicle.

5 21. The system as set forth in claim 19, wherein said sensor comprises a plurality of accelerometers for sensing acceleration in lateral and longitudinal axes of said vehicle.

22. The system as set forth in claim 19, wherein said circuit for acquiring vehicle data comprises a global positioning system ("GPS") receiver.

10 23. The system as set forth in claim 15, wherein an unsafe driving event comprises tailgating.

24. The system as set forth in claim 15, wherein an unsafe driving event frequent
15 lane changes.

25. The system as set forth in claim 15, wherein an unsafe driving event comprises a speed limit violation.

20 26. The system as set forth in claim 15, wherein an unsafe driving event comprises a speed limit violation over a curved segment of road.

27. The system as set forth in claim 15, wherein an unsafe driving event comprises a rapid acceleration from a start.

28. The system as set forth in claim 15, wherein an unsafe driving event
5 comprises a rapid deceleration to a stop.